(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



| 1201 | 100 | 101 | 10 121 | 10 121 | 10 12 1 | 10 12 12 | 13 12 | 13 12 | 13 12 | 13 12 | 13 12 | 13 12 | 13

(43) International Publication Date 23 October 2003 (23.10.2003)

PCT

(10) International Publication Number WO 03/087066 A1

(51) International Patent Classification⁷: C07D 241/04, C07C 259/06

(21) International Application Number: PCT/KR03/00721

(22) International Filing Date: 10 April 2003 (10.04.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 10-2002-0019712 11 April 2002 (11.04.2002) KR

- (71) Applicants (for all designated States except US): SK CHEMICALS, CO., LTD. [KR/KR]; 600 Jungja 1-dong, Jangan-ku, Suwon-shi, Kyungki-do 440-301 (KR). IN2GEN CO., LTD. [KR/KR]; 6th Floor, Cancer Research Institute, Seoul National University College of Medicine, 28 Yongon-dong, Chongno-gu, Seoul 110-799 (KR)
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KIM, Dae-Kee [KR/KR]; 4-705 Shindonga Apt., Bong-dong 481, Dongjak-ku, Seoul 156-768 (KR). LEE, Ju Young [KR/KR]; 105-1502 Dongshin Apt., 401 Jungja-dong,, Jangan-ku, Suwon-shi, Kyungki-do 440-300 (KR). LEE, Nam Kyu [KR/KR]; 123-108 Joogong Apt., 333 Chunchun-dong, Jangan-ku, Suwon-shi, Kyungki-do 440-330 (KR). KIM, Jae-Sun [KR/KR]; 1146-3 15/5 Seryu 2-dong, Kwonsun-ku, Suwon-shi, Kyungki-do 441-112 (KR). LEE, Junwon [KR/KR]; 638-1404 Sejong Apt., Kwangjeong-dong, Gunpo-Shi, Kyungki-do 435-705 (KR). LEE, Suk Ho [KR/KR]; 1204-1504 Joogong Apt., 449-6 Chulsan 3-dong, kwangmyung-shi, Kyungki-do 423-033 (KR). CHOI, Jin Young [KR/KR]; 127-108 Chunchun-Joogong Apt., Chunchun-dong, Jangan-ku, Suwon-shi, Kyungki-do 440-330 (KR). RYU, Je Ho [KR/KR]; 401 Samyang-villa, 654-6 Daerim 3-dong, Youngdeungpo-ku, Seoul 150-073 (KR). KIM, Nam

Ho [KR/KR]; 101 1409 Hyundai Apt., Eunghang-dong, Joongwon-ku, Sungnam-shi, Kyungki-do 462-150 (KR). IM, Guang-Jin [KR/KR]; 406-1202 Hyundai Apt., 1343 Sa-dong, Ansan-shi, Kyungki-do 425-170 (KR). KIM, Tae Kon [KR/KR]; SK Chemicals Institute, Jungja-dong, Jangan-ku, Suwon-shi, Kyungki-do 440-300 (KR). SEO, Jung-Woo [KR/KR]; 139-602 Gwanak Dream Town, Bongchun 5-dong, Gwanak-ku, Seoul 151-055 (KR). BANG, Young-Jue [KR/KR]; 120-694 Hyundai Apt., 434 Apgujeong-dong, Kangnam-ku, Seoul 135-110 (KR).

- (74) Agent: HUH, Sang-Hoon; 16th Fl., Woori Investment Bank Bldg., 826-20, Yeoksam-dong, Kangnam-ku, Seoul 135-080 (KR).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

 $\mathbf{\xi}$ (54) Title: α,β -Unsaturated hydroxamic acid derivatives and their use as histone deacetylase inhibitors

(57) Abstract: Disclosed are agents that inhibit histone deacetylase. More specifically, the present invention relates to novel hydroxamic acid derivatives or pharmaceutically acceptable salts thereof for anticancer agents or other therapeutic agents based on their histone deacetylase inhibitory activity.

